

REMARKS

Claims 1-5 and 9-18 are all the claims pending in the application. Claims 19-27 have been withdrawn by the Examiner. Reconsideration and allowance of all pending claims are respectfully requested in view of the following remarks.

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Huang et al. (U.S. Patent No. 5,592,731) (hereinafter "Huang"). Applicant respectfully traverses this rejection for the following reasons.

Claim 1, as amended, recites, "said stator core being a single piece. . . ." Conversely, Huang requires the stator core to be divided into at least two segments. *See* col. 6, lines 55-58. Furthermore, Claim 1, as amended, recites, "said stator core . . . having a first end surface and a second end surface . . . said end surfaces of said stator core are fixed together to complete said annular shape." Conversely, because the stator core of Huang is segmented into an indiscriminate number of separate parts, it cannot be formed as claimed. Rather, the stator core of Huang requires a thermal expansion technique to form an interference fit of the multiple segments. *See* col. 8, line 61 to col. 9, line 13, et. seq.

For the foregoing reasons, Applicant respectfully requests that the rejection of Claim 1 under 35 U.S.C. § 102(b) be withdrawn.

Claims 2, 9-11 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Nitta (U.S. Patent No. 6,181,047 B1). Applicant respectfully traverses this rejection for the following reasons.

Claim 2 is allowable based at least on its dependence from Claim 1 for the reasons detailed above. Further, Claim 2 recites, “a center of air gaps of adjacently formed slot opening portions is formed to be uneven.” The Examiner correctly concedes that Huang does not disclose this limitation. In order to overcome this deficiency in Huang, the Examiner relies on Nitta.

Applicant wishes to observe that Nitta uses the term “air gap” to describe a feature not at all comparable to the feature indicated by the term “air gap” in the claims. The air gaps in Nitta are depicted by reference characters G1 and G2 in Fig. 1, G4 in Fig. 5, and g1 and g2 in Fig. 8. These air gaps are measured in a radial direction as the distance between the end face of each tooth head 15a and 16a and rotor magnets 23. *See, e.g.*, col. 3, lines 65-66, and col. 4, lines 11-12. Conversely, the claimed air gaps extend in an axial direction of slot opening portions. With respect to the structure in Nitta comparable to the claimed air gaps, this width (C5 in Fig. 3) is entirely uniform. *See* col. 4, lines 14-16 and 63-65.

Claim 9 recites that, “widths of said teeth . . . alternate in size. . . .” Conversely, Huang and Nitta both teach teeth having uniform widths. Therefore, Applicant asserts that the combination of Huang and Nitta neither teaches or suggests the combination as claimed in Claim 9.

Claims 10 and 11 are allowable based at least on their dependence from Claim 9.

Further regarding Claim 10, the claim recites, “dividing a wide tooth. . . .” Applicant respectfully asserts that neither Huang nor Nitta teach or suggest dividing any tooth of any description, much less a tooth according to the claimed combination. Rather, the stator of Nitta is presumably formed by the die-punching method standard in the prior art. And, all of the divisions of the stator taught by Huang are between teeth. Therefore, Applicant asserts that the combination of Huang and Nitta neither teaches nor suggests the combination as claimed in Claim 10.

Further regarding Claim 11, the claim recites, “a center of air gaps . . . alternates. . . .” The Examiner correctly concedes that Huang does not disclose this limitation. In order to overcome this deficiency in Huang, the Examiner relies on Nitta. As described above, Applicant observes that Nitta uses the term “air gap” to describe a feature not at all comparable to the feature indicated by the term “air gap” in Claim 11.

Claim 15 recites, “alternating said lengths of said projections.” The Examiner correctly concedes that Huang does not disclose this limitation. In order to overcome this deficiency in Huang, the Examiner relies on Nitta. The length of the projections in the first and fourth embodiments taught by Nitta are uniform. *See* Figs. 1 and 5. The lengths of the projections of each consecutive pair of projections in the second and third embodiments taught by Nitta are also uniform. In other words, insofar as the claimed lengths of projections are concerned, Applicant asserts that Nitta merely teaches and suggests that which is also taught and suggested by

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 09/625,993

Burgbacher et al. (U.S. Patent No. 5,331,245), previously applied, now withdrawn. *See* Figs. 10 and 11 in Burgbacher.

For the foregoing reasons, Applicant submits that the combination of Huang and Nitta neither teaches nor suggests the combination as claimed in Claim 15.

Therefore, Applicant requests that the rejection of Claims 2, 9-11 and 15 under 35 U.S.C. § 103(a) be withdrawn.

In view of the foregoing, allowance of this application is now believed to be in order, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

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Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Twice Amended) A stator for an automotive alternator, said stator comprising:

a stator core in which a plurality of slots extending in axial directions are formed at an inner circumference thereof and two sets of three-phase stator coils which are fitted into said slots, wherein

2 slots are provided for each phase of said stator coils and each magnetic pole and the total number of the slots is 72 or more, and

said stator core is formed as a lamination of a plurality of sheet-shaped magnetic members with a plurality of teeth defining said slots at one side of a yoke, said stator core being a single piece having a first end surface and a second end surface, said stator coils being disposed in said slots, and said stator core then being formed into an annular shape such that said stator coils become disposed at an inner side at said inner circumference thereof, and said end surfaces of said stator core are fixed together to complete said annular shape.